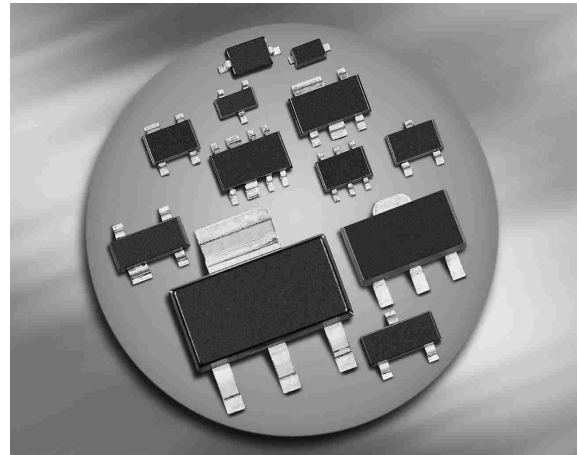
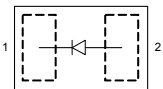


**Low VF Schottky Diode**

- Reverse voltage: 40 V
- Forward current: 0.2 A
- Low forward voltage and smallest package form factor (1.0 x 0.6 x < 0.4 mm) for mobile phone battery charger application
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


**BAS4002S-02LRH**


Type	Package	Configuration	Marking
BAS4002S-02LRH	TSLP-2-17	single	2A

**Maximum Ratings** at  $T_A = 25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage <sup>1)</sup>	$V_R$	40	V
Forward current <sup>1)</sup> , $T_S \leq 138\text{ °C}$	$I_F$	0.2	A
Non-repetitive peak surge forward current ( $t \leq 10\text{ ms}$ )	$I_{FSM}$	2	
Junction temperature	$T_j$	150	°C
Operating temperature range	$T_{op}$	-55 ... 150	
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Junction - soldering point <sup>2)</sup>	$R_{thJS}$	$\leq 60$	K/W
--	------------	-----------	-----

<sup>1)</sup>For  $T_A > 25\text{ °C}$  the derating of  $V_R$  and  $I_F$  has to be considered.

<sup>2)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

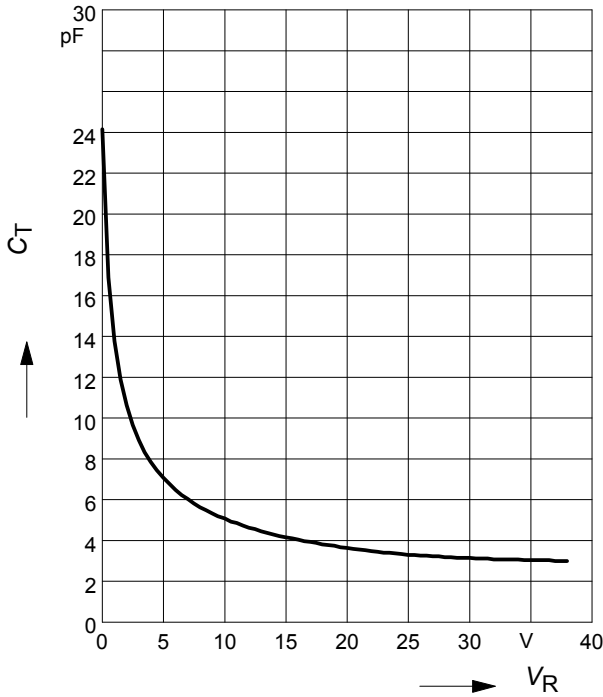
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current <sup>1)</sup>	$I_R$				$\mu\text{A}$
$V_R = 5\text{ V}$		-	-	0.5	
$V_R = 10\text{ V}$		-	-	1	
$V_R = 40\text{ V}$		-	-	10	
Forward voltage <sup>1)</sup>	$V_F$				$\text{mV}$
$I_F = 0.1\text{ mA}$		-	210	250	
$I_F = 1\text{ mA}$		-	270	310	
$I_F = 10\text{ mA}$		-	330	370	
$I_F = 100\text{ mA}$		-	420	470	
$I_F = 200\text{ mA}$		-	470	550	
<b>AC Characteristics</b>					
Diode capacitance	$C_T$	-	7	12	$\text{pF}$
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

<sup>1)</sup>Pulsed test:  $t_p = 300\ \mu\text{s}$ ,  $D = 0.01$

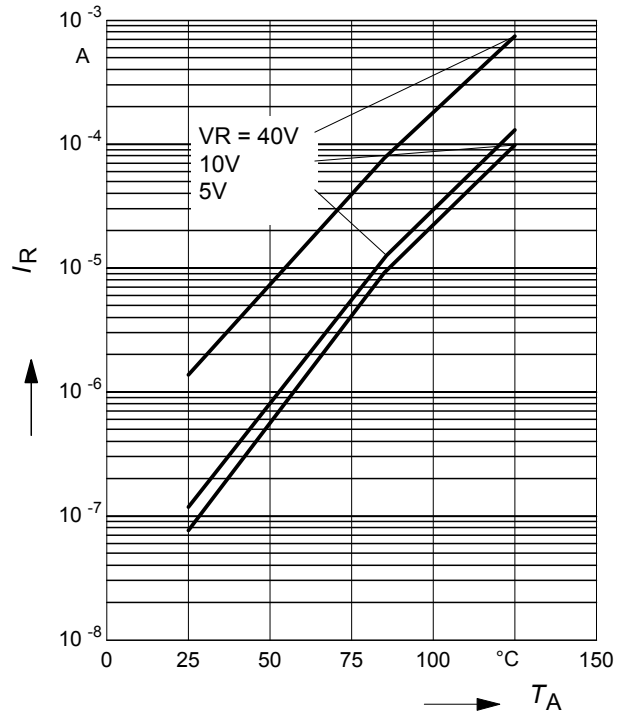
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



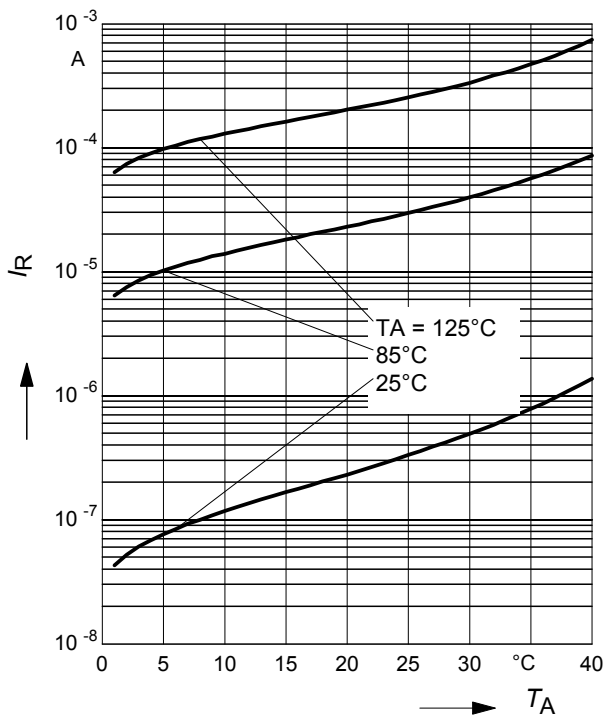
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



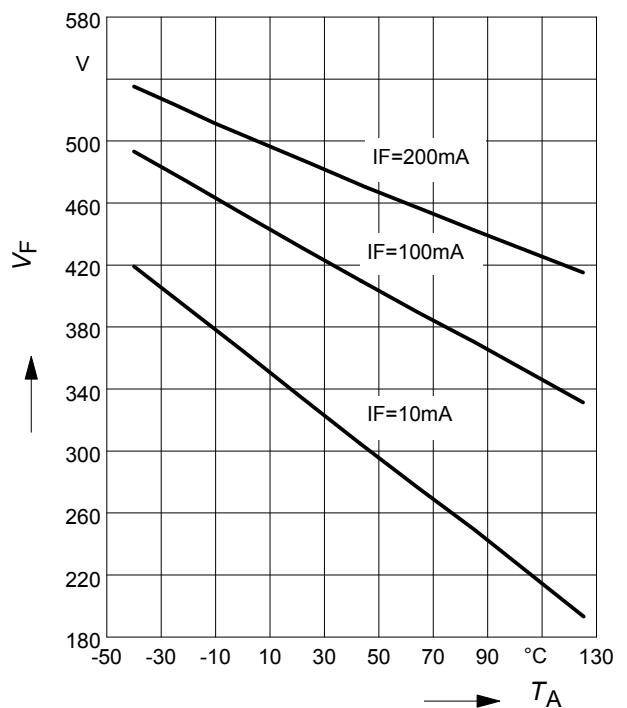
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

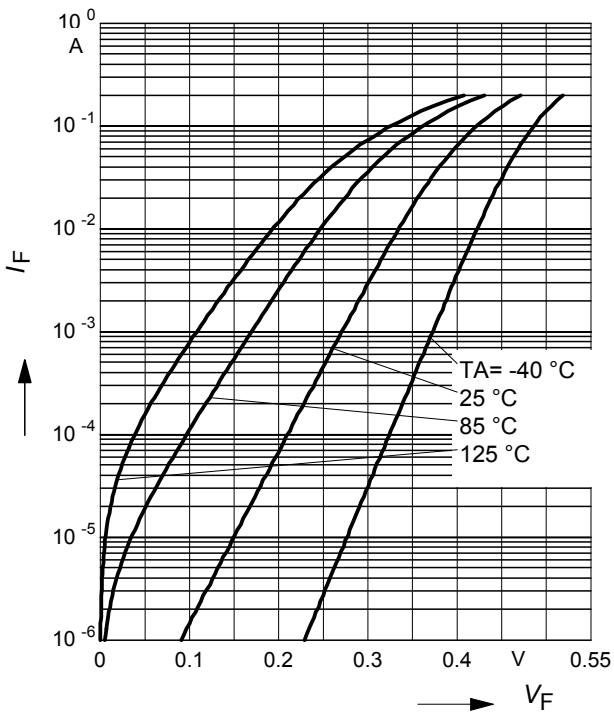


**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



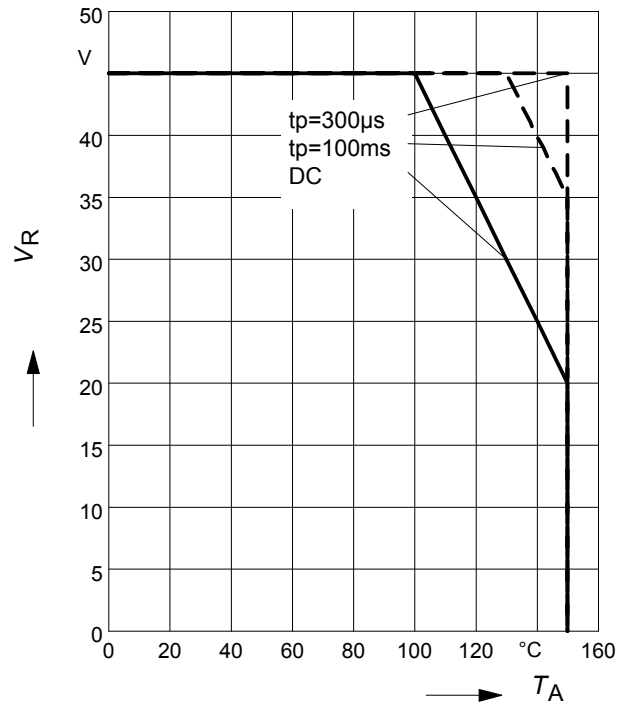
**Forward current  $I_F = f(V_F)$**



**Permissible Reverse voltage  $V_R = f(T_A)$**

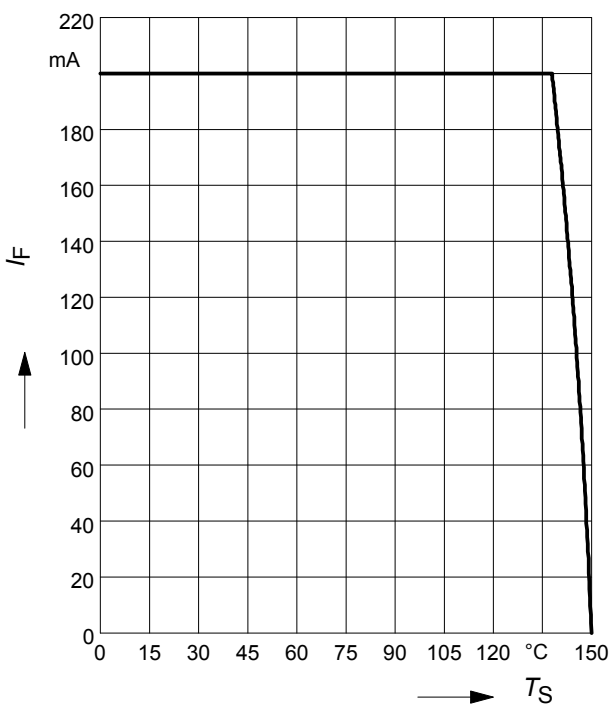
$t_p =$  Parameter, Duty cycle  $< 0.01$

Device mounted on PCB with  $R_{th} = 160 \text{ K/W}$

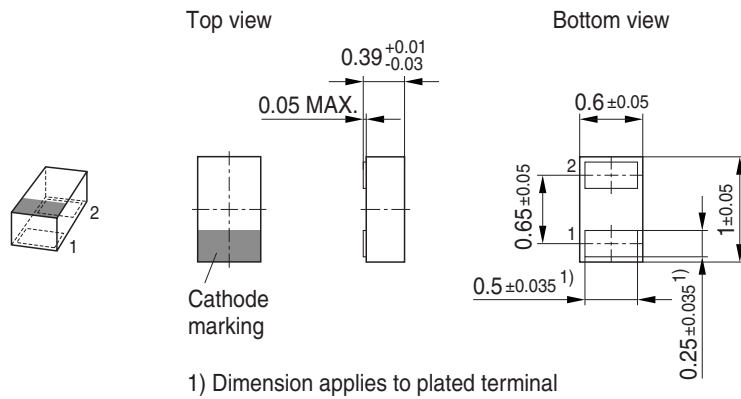


**Forward current  $I_F = f(T_S)$**

BAS4002S-02LRH

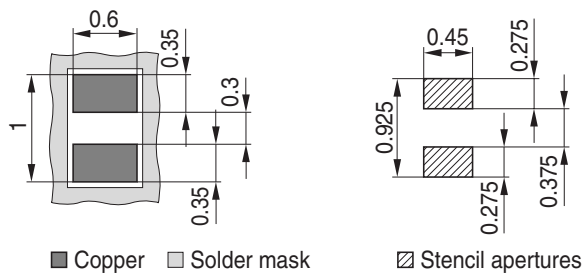


### Package Outline

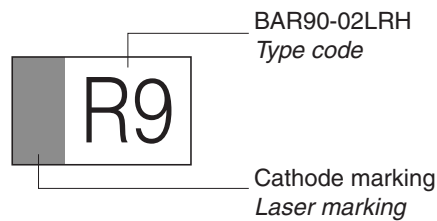


### Foot Print

For board assembly information please refer to Infineon website "Packages"

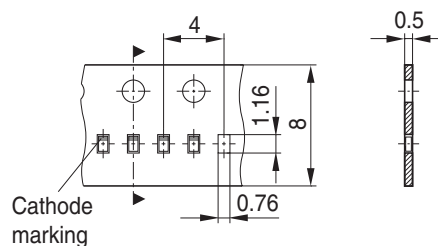


### Marking Layout (Example)



### Standard Packing

Reel  $\varnothing$ 180 mm = 15.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 50.000 Pieces/Reel (optional)



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